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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte THOMAS D. BENSON

Appeal 2008-0766
Application 10/004,296
Technology Center 3600

Decided: April 16, 2008

Before MURRIEL E. CRAWFORD, JENNIFER D. BAHR, and LINDA E. HORNER, *Administrative Patent Judges*.

HORNER, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Thomas D. Benson (Appellant) seeks our review under 35 U.S.C. § 134 of the rejection of claims 21-24. Claims 21-29 are pending in the application, and claims 25-29 have been withdrawn from consideration. We have jurisdiction under 35 U.S.C. § 6(b) (2002).

SUMMARY OF DECISION

We AFFIRM.

THE INVENTION

The Appellant's claimed invention is to a system for inventory management control. Claim 21, reproduced below, is representative of the subject matter on appeal.

> 21. An inventory control system, said system comprising:
>
> a processor operable to determine a required quantity of material;
>
> a means for communicating with at least one supplier of said material, wherein said communication includes conveying to said at least one supplier said quantity and a time frame and receiving from said at least one supplier a confirmation;
>
> computer readable code processed by said processor, wherein said code is operable to re-determine said required quantity using feedback relating to a performance of at least one supply chain participant.

THE REJECTIONS

The Examiner relies upon the following as evidence of unpatentability:

Graves	SIR H1743	Aug. 4, 1998
Gung	US 6,816,839 B1	Nov. 9, 2004

The following rejections are before us for review:

1. Claims 21-24 are rejected under 35 U.S.C. § 112, second paragraph, as indefinite for failing to particularly point out and distinctly claim the subject matter of the invention.
2. Claims 21, 22, and 24 are rejected under 35 U.S.C. § 102(b) as anticipated by Graves.
3. Claims 21-24 are rejected under 35 U.S.C. § 103(a) as unpatentable over Graves and Gung.

ISSUES

The Examiner found that the use of the term "performance" in the claim 21 is unclear (Ans. 3). The Appellant contends that the Examiner has "mistaken breadth for indefiniteness" (App. Br. 4). The issue before us is whether the Appellant has shown that the Examiner erred in rejecting claims 21-24 under 35 U.S.C. § 112, second paragraph. This issue turns on whether one having ordinary skill in the art would understand what is meant by "performance" when the claim is read in light of the specification.

The Examiner also found that Graves discloses code operable to re-determine a required quantity using feedback relating to a performance of

at least one supply chain participant, as recited in claim 21, that the feedback includes a comparison between an actual run rate and a corresponding anticipated run rate, as recited in claim 22, and a product forecast, as recited in claim 24 (Ans. 4). The Appellant argues that Graves's monitoring of storage tank level is not information regarding the performance of a supply chain participant, "a tank level is not a run rate," and "revaluating projected tank levels is not the same as determining a quantity using one or more of a product forecast, a bill of materials, a material lead time, and a desired inventory level" (App. Br. 5-6). The issue before us is whether Appellants have shown that the Examiner erred in rejecting claims 21, 22, and 24 as anticipated by Graves.

The Examiner also concluded that the subject matter of claims 21-24 would have been obvious to one having ordinary skill in the art, because Gung discloses forecasting demand based upon performance, and one would have been motivated to use the model-based value of Gung to set the threshold of the feedback system in Graves to make it have a more efficient target (Ans. 5). The Appellant argues that the Examiner's motivation reasoning is circular, modifying the system of Graves would render Graves unfit for its intended purpose, and Gung does not teach "forecasting demand based upon performance" (App. Br. 7-9). The issue before us is whether the Appellant has shown that the Examiner erred in determining that the combination of Graves and Gung render obvious the subject matter of claims 21-24.

FINDINGS OF FACT

We find that the following enumerated findings are supported by at least a preponderance of the evidence. *Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Office).

1. The customary meaning of "performance" is the way in which someone or something functions. *The American Heritage Dictionary of the English Language* (4th ed. 2000), found at www.bartelby.com.
2. The Appellant's Specification does not provide a definition of "performance" or use the term in any way contrary to its ordinary and customary meaning.
3. The Appellant's Specification describes "[t]he comparison between actual run rate and anticipated run rate, actual and expected product yield and the evaluation and possible adjustment of inventory levels and forecasts is preferably used to provide feedback for use in the determination of the material order in step 104" (Spec. 5: third paragraph).
4. Graves is directed to a method and apparatus for monitoring the inventory of materials used in the manufacture of finished products, and the ordering (replenishment) of used materials (Graves, col. 1, ll. 7-10).

5. In the example provided in Graves, a paper mill manufacturer is the "customer" and a supplier supplies chemicals to the manufacturer for use in the manufacture of paper (Graves, col. 4, ll. 47-52).
6. Graves discloses an inventory management apparatus 10 comprising a sensor 100, associated with a storage tank 102, and a processing unit 106 (Graves, col. 4, ll. 63-66).
7. The processing unit 106 executes a specially designed "program," which necessary must be made up of computer readable code. (Graves, col. 7, ll. 64-65).
8. In one embodiment, a projected storage tank level is compared to the actual level once every three hours and if the difference between the actual and predicted levels exceed a predetermined threshold, the projected levels are re-calculated using the last three hour flow rate, the delivery schedule for new chemicals is adjusted accordingly, and a facsimile is issued to the supplier to reflect the changed delivery schedule (Graves, col. 17, ll. 28-39).
9. The level of chemicals in the tank corresponds to the "rate at which the chemical in the storage tank is being consumed" which is directly related to the run rate of the paper mill (Graves, col. 7, ll. 35-38).
10. Graves's inventory management system 10 predicts storage tank product levels based on forecasted and actual usage rates by

comparing projected usage level to actual usage level (Grave, col. 10, l. 59 – col. 11, l. 9).

11. The actual usage level is provided by feedback from sensor 100 to processing unit 106 (Graves, col. 5, ll. 5-27).

12. Gung discloses a method for forecasting the demand of products with multiple options, to be used for establishing an efficient supply chain management framework by providing an accurate demand forecast of each attachment (Gung, col. 1, ll. 7-11).

13. Gung teaches that "the forecasted demand is not always accepted as is, rather adjusted afterwards based on external constraints including price change, inventory status, and competitors [*sic*] performance" (Gung, col. 3, ll. 16-19).

14. As such, Gung teaches that to provide a more accurate forecast, competitor's performance should be considered.

PRINCIPLES OF LAW

35 U.S.C. § 112, second paragraph

The test for definiteness under 35 U.S.C. § 112, second paragraph, is whether "those skilled in the art would understand what is claimed when the claim is read in light of the specification." *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.,* 806 F.2d 1565, 1576 (Fed. Cir. 1986) (citations omitted).

35 U.S.C. § 102

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987).

35 U.S.C. § 103

"Section 103 forbids issuance of a patent when 'the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.'" *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1734 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). *See also KSR*, 127 S.Ct. at 1734 ("While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.")

In *KSR*, the Supreme Court emphasized "the need for caution in granting a patent based on the combination of elements found in the prior art," *id.* at 1739, and discussed circumstances in which a patent might be

determined to be obvious. In particular, the Supreme Court emphasized that "the principles laid down in *Graham* reaffirmed the 'functional approach' of *Hotchkiss*, 11 How. 248." *KSR,* 127 S.Ct. at 1739 (citing *Graham*, 383 U.S. at 12 (emphasis added)), and reaffirmed principles based on its precedent that "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *Id.* The Court explained:

> When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

Id. at 1740. The operative question in this "functional approach" is thus "whether the improvement is more than the predictable use of prior art elements according to their established functions." *Id.*

ANALYSIS

Rejection of claims 21-24 under 35 U.S.C. § 112, second paragraph

The Examiner found "[i]t is unclear how the term 'performance' is being used [in claim 21]" (Ans. 3). The Examiner explained that

"[performance] would seem to connote use of quality or standards but nothing has been recited to quantify this term" (Ans. 3).

The Appellant contends that the Examiner has "mistaken breadth for indefiniteness" and that the Specification "makes clear that 'performance' relates to, for example, 'run rate information,' including the consumption or rate of consumption of supplied materials by a supply chain participant" and that the term is "not limited to any one specific standard or quality" (App. Br. 4, citing Spec. 5).

The customary meaning of "performance" is the way in which someone or something functions (Fact 1). The Appellant's Specification does not provide a definition of "performance" or use the term in any way contrary to its ordinary and customary meaning (Fact 2). The Appellant's Specification describes that the information used to provide feedback for determination of the material order includes: a comparison between actual run rate and anticipated run rate, actual and expected product yield, and the evaluation and possible adjustment of inventory levels and forecasts (Fact 3). As such, one having ordinary skill in the art, upon reading the Appellant's Specification, would understand the term "performance" in claim 21 to refer to the way in which a supply chain participant functions, including, for example, the run rate, product yield, and inventory level of a manufacturer.[1] We conclude that those skilled in the art would understand

[1] A manufacturer is part of the supply chain and is thus a "supply chain participant." A supply chain starts with unprocessed raw materials and ends with a final customer using the finished goods. All vendors, manufacturers,

what is meant by "performance" when the claim is read in light of the Specification, and we will not sustain the Examiner's rejection of claims 21-24 under 35 U.S.C. § 112, second paragraph.

Rejection of claims 21-24 under 35 U.S.C. § 102(b) as anticipated by Graves

The Examiner found that Graves discloses code operable to re-determine a required quantity using feedback relating to a performance of at least one supply chain participant, as recited in claim 21 (Ans. 4). In particular, the Examiner found that the customer in Graves qualifies as a "supply chain participant" and that its "performance" is the functioning of the facility that results in drawing down of the tank supply (Ans. 4, citing Graves, col. 17, ll. 28-37).

The Appellant argues that "Graves merely monitors the level of a storage tank and compares it to projected levels" and that this comparison "provides no information regarding the performance of a supply chain participant" (App. Br. 5). We disagree.

Taking into consideration the definition of performance as being broad enough to include the way in which a supply chain participant functions, including, for example, the run rate, product yield, and inventory level of a manufacturer, Graves clearly discloses that the programming unit 106 executes a program that re-determines the required quantity of

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service providers, and customers are participants in the supply chain.

chemicals using feedback from the sensor 100 relating to the inventory level of chemicals in the storage tank 102 (i.e., the performance of the manufacturer's paper mill) of the paper manufacturer (supply chain participant) (Facts 4-8). Thus, Graves is clearly monitoring the performance of the paper mill manufacturer to determine the rate at which the chemicals used in the paper production process are being used so that the manufacturer can automatically adjust, if necessary, the timing of the delivery of additional chemicals based on the rate of use.

The Examiner found that Graves discloses that the feedback includes a comparison between an actual run rate and a corresponding anticipated run rate, as recited in claim 22 (Ans. 4, citing Graves, col. 17, ll. 28-30). The Appellant argues that "a tank level is not a run rate" and that there is no mention in the cited portion of Graves of feedback" (App. Br. 6). We disagree. The level of chemicals in the tank corresponds to the "rate at which the chemical in the storage tank is being consumed" which is directly related to the run rate of the paper mill (Fact 9). Graves's inventory management system 10 predicts storage tank product levels based on forecasted and actual usage rates by comparing projected usage level to actual usage level, which is provided as feedback from sensor 100 (Facts 10, 11).

The Examiner found that Graves discloses a product forecast, as recited in claim 24 (Ans. 4, citing Graves, col. 17, ll. 30-31). The Appellant argues that "Graves is wholly silent as to any computer readable code" and

"that revaluating projected tank levels is not the same as determining a quantity using one or more of a product forecast, a bill of materials, a material lead time, and a desired inventory level" (App. Br. 6). We find it disingenuous for the Appellant to contend that Graves does not disclose computer readable code since Graves explicitly states that its processing unit executes "a specially designed program," which necessary must be made up of computer readable code (Fact 7). Further, we fail to see how Graves's disclosure of re-determining the projected usage rate of chemicals based on a comparison of actual versus projected usage rates is any different from re-determining a required quantity using a desired inventory level, as recited in claim 24. Thus, we sustain the Examiner's rejections of claims 21, 22, and 24 under 35 U.S.C. § 102(b) as anticipated by Graves.

Rejection of claims 21-24 under 35 U.S.C. § 103(a) as unpatentable over Graves and Gung

The Examiner concluded that the subject matter of claims 21-24 would have been obvious to one having ordinary skill in the art because Gung discloses forecasting demand based upon performance (Gung, col. 3, ll. 16-19), and one would have been motivated to use the model-based value of Gung to set the threshold of the feedback system in Graves to make it have a more efficient target (Ans. 5).

The Appellant argues that the Examiner's reasoning is circular and is merely a statement that the reference can be modified (App. Br. 7). The

Appellant also argues that modifying the real time evaluation system of Graves to have the speculative forecast model of Gung would prohibit Graves from keeping track of consumable materials in real time and thus would render Graves unfit for its intended purpose (App. Br. 8). The Appellant also argues that Gung does not teach "forecasting demand based upon performance" because it discloses "adjusting forecast demand based on 'external constraints include price change, inventory status, and competitors [*sic*] performance'" (App. Br. 9).

Gung teaches that to provide a more accurate forecast, competitor's performance should be considered (Facts 12-14). One having ordinary skill in the art would have recognized that this technique could be applied to the inventory management system of Graves, to provide a more accurate forecast of the projected usage rate. In other words, if it were known that a competing paper mill just won a bid to supply paper to one of the manufacturer's customers, the manufacturer could take this into account (as feedback) and re-determine the projected usage rate of its chemicals based on a decreased demand for its paper (perhaps they would not operate the mill at full capacity). By taking into account the competitor's performance, the system in Graves would be more efficient because by re-determining the quantity of chemicals necessary, the plant could notify its suppliers to wait longer between shipments and thus reduce inventory costs and spread out the costs for the chemicals over a longer period of time. This modification would not render Graves's system unfit for its intended purpose, because the

competitor's performance feedback is used to adjust the forecast of the projected usage, but the system in Graves would still continue to also monitor the actual usage of the chemical and adjust the projected usage accordingly. The system would merely use two pieces of feedback, rather than one, to obtain an improved and more accurate forecast of expected usage. *See KSR*, 127 S.Ct. at 1740 ("if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.") The Appellant has not shown that modifying the system of Graves with the added feedback, as suggested by Gung, would have been beyond the skill of one having ordinary skill in the art. As such, we sustain the Examiner's rejection of claims 21-24 under 35 U.S.C. § 103(a) as unpatentable over Graves and Gung.

CONCLUSIONS OF LAW

We conclude the Appellant has shown that the Examiner erred in rejecting claims 21-24 under 35 U.S.C. § 112, second paragraph. The Appellant has not shown that the Examiner erred in rejecting claims 21, 22, and 24 under 35 U.S.C. § 102(b) as anticipated by Graves and claims 21-24 under 35 U.S.C. § 103(a) as unpatentable over Graves and Gung.

DECISION

The decision of the Examiner to reject claims 21-24 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2007).

AFFIRMED

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